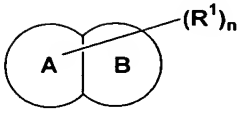
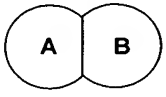
CLAIMS

1. A compound represented by the formula (I):



(I)

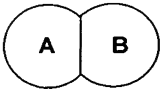
wherein



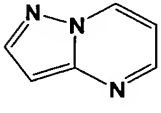
represents a 8- to 10-membered fused heterocyclic ring; R^1 represents (1) a hydrogen atom, (2) a halogen atom, (3) a cyano group, (4) an oxo group, (5) an optionally protected hydroxy group, (6) an optionally protected carboxyl group, (7) an optionally protected amino group, (8) a cyclic group which may have a substituent(s), (9) an aliphatic hydrocarbon group which may have a substituent(s), or (10) an optionally protected thiol group; n represents 0 or an integer of 1 to 8; provided that if n represents an integer of not less than 2, the plural R^1s are the same or different;

or a salt thereof, a solvate thereof or a prodrug thereof.

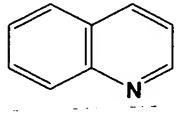
2. The compound according to claim 1, wherein



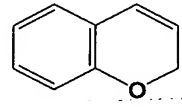
is



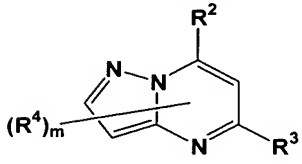
,



or



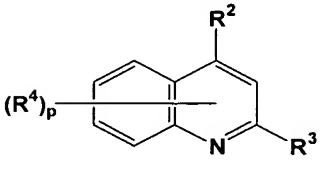
3. The compound according to claim 1, wherein the formula (I) is represented by the formula (I-1):



(I-1)

wherein R^2 represents an optionally protected amino group or a cyclic group which may have a substituent(s); R^3 represents a halogen atom, an optionally protected hydroxy group, an optionally protected thiol group or a cyclic group which may have a substituent(s); R^4 represents a hydrogen atom, a halogen atom, an optionally protected amino group, an optionally protected hydroxy group, an optionally protected thiol group, a cyclic group which may have a substituent(s) or an aliphatic hydrocarbon group which may have a substituent(s); m represents 0 or an integer of 1 to 3; provided that if m represents an integer of not less than 2, the plural R^4s are the same or different.

4. The compound according to claim 1, wherein the formula (I) is represented by the formula (I-2):

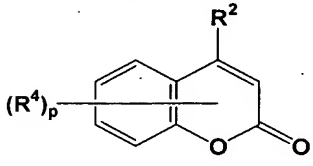


(I-2)

wherein p represents 0 or an integer of 1 to 5; the other symbols represent the same meanings as in claim 3; provided that if p

represents an integer of not less than 2, the plural R^4s are the same or different.

5. The compound according to claim 1, wherein the formula (I) is represented by the formula (I-3):



(I-3)

wherein all the symbols represent the same meanings as in claim 3 or 4.

6. The compound according to claim 3, 4, or 5, wherein R^2 is a protected amino group.

7. The compound according to claim 1 selected from the group consisting of

(1) N-(1,3-benzodioxol-5-ylmethyl)-5-chloropyrazolo[1,5-a]pyrimidin-7-amine,

(2) 5-chloro-N-(3-chlorophenyl)pyrazolo[1,5-a]pyrimidin-7-amine,

(3) 5-thien-3-yl-N-(3,4,5-trimethoxybenzyl)pyrazolo[1,5-a]pyrimidin-7-amine,

(4) N-(4-{7-[(4-methoxybenzyl)amino]pyrazolo[1,5-a]pyrimidin-5-yl}phenyl)acetamide,

(5) 2-{4-[(5-chloropyrazolo[1,5-a]pyrimidin-7-

yl)amino]phenyl}ethanol,

(6) 5-(2-furyl)-N-(3,4,5-trimethoxybenzyl)pyrazolo[1,5-a]pyrimidin-7-amine,

(7) 5-(4-fluorophenyl)-N-(3,4,5-trimethoxybenzyl)pyrazolo[1,5-a]pyrimidin-7-amine,

(8) 5-(5-methylthien-2-yl)-N-(3,4,5-trimethoxybenzyl)pyrazolo[1,5-a]pyrimidin-7-amine,

(9) 5-(3,4-dimethylphenyl)-N-(pyridin-4-ylmethyl)pyrazolo[1,5-a]pyrimidin-7-amine,

(10) N-(pyridin-4-ylmethyl)-5-quinolin-3-ylpyrazolo[1,5-a]pyrimidin-7-amine,

(11) 5-(3-fluorophenyl)-N-(3,4,5-trimethoxybenzyl)pyrazolo[1,5-a]pyrimidin-7-amine,

(12) N-(pyridin-4-ylmethyl)-5-thien-3-ylpyrazolo[1,5-a]pyrimidin-7-amine,

(13) N-(4-methoxybenzyl)-5-thien-3-ylpyrazolo[1,5-a]pyrimidin-7-amine,

(14) 1-(3-{7-[(4-methoxybenzyl)amino]pyrazolo[1,5-a]pyrimidin-5-yl}phenyl)ethanone,

(15) 5-pyridin-4-yl-N-(3,4,5-trimethoxybenzyl)pyrazolo[1,5-a]pyrimidin-7-amine,

(16) N^5-[4-(dimethylamino)phenyl]-N^7-propylpyrazolo[1,5-a]pyrimidin-5,7-diamine,

(17) 5-(3-furyl)-N-(3,4,5-trimethoxybenzyl)pyrazolo[1,5-a]pyrimidin-7-amine,

(18) 5-(3-furyl)-N-(thien-2-

ylmethyl)pyrazolo[1,5-a]pyrimidin-7-amine,
(19) 5-(3-furyl)-N-(3,4,5-trimethoxyphenyl)pyrazolo[1,5-a]pyrimidin-7-amine,
(20) 5-(4-methylphenyl)-N-(4-pyridinylmethyl)pyrazolo[1,5-a]pyrimidin-7-amine,
(21) 5-(3-methoxyphenyl)-N-(4-pyridinylmethyl)pyrazolo[1,5-a]pyrimidin-7-amine,
(22) 5-(3-furyl)-N-(4-pyridinylmethyl)pyrazolo[1,5-a]pyrimidin-7-amine,
(23) N-(4-methoxybenzyl)-5-(4-methylphenyl)pyrazolo[1,5-a]pyrimidin-7-amine,
(24) N-(4-methoxybenzyl)-5-(3-methoxyphenyl)pyrazolo[1,5-a]pyrimidin-7-amine,
(25) 5-(3-furyl)-N-(4-methoxybenzyl)pyrazolo[1,5-a]pyrimidin-7-amine,
(26) {1-[5-(3-methoxyphenyl)pyrazolo[1,5-a]pyrimidin-7-yl]-2-pyrrolidinyl}methanol,
(27) 5-(4-methyl-2-thienyl)-N-(4-pyridinylmethyl)pyrazolo[1,5-a]pyrimidin-7-amine,
(28) 4-[(3-chloro-4-fluorophenyl)amino]-6-methyl-2H-chromen-2-one,
(29) 4-[(3-chloro-4-fluorophenyl)amino]-8-methyl-2H-chromen-2-one,
(30) 4-[(3-chloro-4-fluorophenyl)amino]-2H-chromen-2-one,
(31) 5-chloro-N-(4-methoxybenzyl)pyrazolo[1,5-a]pyrimidin-7-amine,
(32) 5-chloro-N-(4-methoxybenzyl)-2-

methylpyrazolo[1,5-a]pyrimidin-7-amine,
(33) 5-chloro-N-(4-methoxybenzyl)-3-methylpyrazolo[1,5-a]pyrimidin-7-amine,
(34) N-(4-methoxybenzyl)-5-methylpyrazolo[1,5-a]pyrimidin-7-amine,
(35) N-(4-methoxybenzyl)-2,5-dimethylpyrazolo[1,5-a]pyrimidin-7-amine,
(36) N-(4-methoxybenzyl)-3,5-dimethylpyrazolo[1,5-a]pyrimidin-7-amine,
(37) N-(4-methoxybenzyl)-5-phenylpyrazolo[1,5-a]pyrimidin-7-amine,
(38) N-(4-methoxybenzyl)-2-methyl-5-phenylpyrazolo[1,5-a]pyrimidin-7-amine, and
(39) N-(4-methoxybenzyl)-3-methyl-5-phenylpyrazolo[1,5-a]pyrimidin-7-amine.

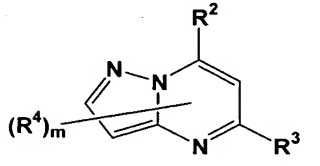
8. A pharmaceutical composition which comprises the compound represented by the formula (I) according to claim 1, a salt thereof, a solvate thereof, or a prodrug thereof.

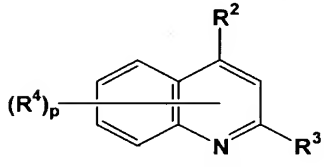
9. The pharmaceutical composition according to claim 8, which is a kinase inhibitor.

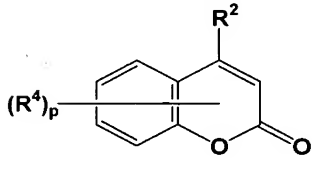
10. The pharmaceutical composition according to claim 9, wherein the kinase is c-Jun N-terminal kinase.

11. The pharmaceutical composition according to claim 10, wherein the c-Jun N-terminal kinase is JNK1.

12. The pharmaceutical composition according to claim 8, wherein the compound is represented by the formula (I-1), (I-2), or (I-3):


(I-1)


(I-2)


(I-3)

wherein all the symbols represent the same meanings as in claim 3 or 4.

13. The composition according to claim 8, wherein the compound is selected from the group consisting of

(1) N-(1,3-benzodioxol-5-ylmethyl)-5-chloropyrazolo[1,5-a]pyrimidin-7-amine,

(2) 5-chloro-N-(3-chlorophenyl)pyrazolo[1,5-a]pyrimidin-7-amine,

(3) 5-thien-3-yl-N-(3,4,5-

trimethoxybenzyl)pyrazolo[1,5-a]pyrimidin-7-amine,
(4) N-(4-{7-[(4-
methoxybenzyl)amino]pyrazolo[1,5-a]pyrimidin-5-
yl}phenyl)acetamide,
(5) 2-{4-[(5-chloropyrazolo[1,5-a]pyrimidin-7-
yl)amino]phenyl}ethanol,
(6) 5-(2-furyl)-N-(3,4,5-
trimethoxybenzyl)pyrazolo[1,5-a]pyrimidin-7-amine,
(7) 5-(4-fluorophenyl)-N-(3,4,5-
trimethoxybenzyl)pyrazolo[1,5-a]pyrimidin-7-amine,
(8) 5-(5-methylthien-2-yl)-N-(3,4,5-
trimethoxybenzyl)pyrazolo[1,5-a]pyrimidin-7-amine,
(9) 5-(3,4-dimethylphenyl)-N-(pyridin-4-
ylmethyl)pyrazolo[1,5-a]pyrimidin-7-amine,
(10) N-(pyridin-4-ylmethyl)-5-quinolin-3-
ylpyrazolo[1,5-a]pyrimidin-7-amine,
(11) 5-(3-fluorophenyl)-N-(3,4,5-
trimethoxybenzyl)pyrazolo[1,5-a]pyrimidin-7-amine,
(12) N-(pyridin-4-ylmethyl)-5-thien-3-
ylpyrazolo[1,5-a]pyrimidin-7-amine,
(13) N-(4-methoxybenzyl)-5-thien-3-
ylpyrazolo[1,5-a]pyrimidin-7-amine,
(14) 1-(3-{7-[(4-
methoxybenzyl)amino]pyrazolo[1,5-a]pyrimidin-5-
yl}phenyl)ethanone,
(15) 5-pyridin-4-yl-N-(3,4,5-
trimethoxybenzyl)pyrazolo[1,5-a]pyrimidin-7-amine,

(16) N^5-[4-(dimethylamino)phenyl]-N^7-propylpyrazolo[1,5-a]pyrimidin-5,7-diamine,

(17) 5-(3-furyl)-N-(3,4,5-trimethoxybenzyl)pyrazolo[1,5-a]pyrimidin-7-amine,

(18) 5-(3-furyl)-N-(thien-2-ylmethyl)pyrazolo[1,5-a]pyrimidin-7-amine,

(19) 5-(3-furyl)-N-(3,4,5-trimethoxyphenyl)pyrazolo[1,5-a]pyrimidin-7-amine,

(20) 5-(4-methylphenyl)-N-(4-pyridinylmethyl)pyrazolo[1,5-a]pyrimidin-7-amine,

(21) 5-(3-methoxyphenyl)-N-(4-pyridinylmethyl)pyrazolo[1,5-a]pyrimidin-7-amine,

(22) 5-(3-furyl)-N-(4-pyridinylmethyl)pyrazolo[1,5-a]pyrimidin-7-amine,

(23) N-(4-methoxybenzyl)-5-(4-methylphenyl)pyrazolo[1,5-a]pyrimidin-7-amine,

(24) N-(4-methoxybenzyl)-5-(3-methoxyphenyl)pyrazolo[1,5-a]pyrimidin-7-amine,

(25) 5-(3-furyl)-N-(4-methoxybenzyl)pyrazolo[1,5-a]pyrimidin-7-amine,

(26) {1-[5-(3-methoxyphenyl)pyrazolo[1,5-a]pyrimidin-7-yl]-2-pyrrolidinyl}methanol,

(27) 5-(4-methyl-2-thienyl)-N-(4-pyridinylmethyl)pyrazolo[1,5-a]pyrimidin-7-amine,

(28) 4-[(3-chloro-4-fluorophenyl)amino]-6-methyl-2H-chromen-2-one,

(29) 4-[(3-chloro-4-fluorophenyl)amino]-8-methyl-2H-

chromen-2-one,
(30) 4-[(3-chloro-4-fluorophenyl)amino]-2H-chromen-2-one,
(31) 5-chloro-N-(4-methoxybenzyl)pyrazolo[1,5-a]pyrimidin-7-amine,
(32) 5-chloro-N-(4-methoxybenzyl)-2-methylpyrazolo[1,5-a]pyrimidin-7-amine,
(33) 5-chloro-N-(4-methoxybenzyl)-3-methylpyrazolo[1,5-a]pyrimidin-7-amine,
(34) N-(4-methoxybenzyl)-5-methylpyrazolo[1,5-a]pyrimidin-7-amine,
(35) N-(4-methoxybenzyl)-2,5-dimethylpyrazolo[1,5-a]pyrimidin-7-amine,
(36) N-(4-methoxybenzyl)-3,5-dimethylpyrazolo[1,5-a]pyrimidin-7-amine,
(37) N-(4-methoxybenzyl)-5-phenylpyrazolo[1,5-a]pyrimidin-7-amine,
(38) N-(4-methoxybenzyl)-2-methyl-5-phenylpyrazolo[1,5-a]pyrimidin-7-amine, and
(39) N-(4-methoxybenzyl)-3-methyl-5-phenylpyrazolo[1,5-a]pyrimidin-7-amine.

14. The pharmaceutical composition according to claim 10, which is a preventive and/or therapeutic agent for c-Jun N-terminal kinase-mediated diseases.

15. The pharmaceutical composition according to claim 14, wherein the c-Jun N-terminal kinase-mediated diseases are metabolic diseases or inflammatory diseases.

16. The pharmaceutical composition according to claim 15, wherein the metabolic disease is diabetes mellitus.

17. The pharmaceutical composition according to claim 16, wherein the diabetes mellitus is insulin-resistant diabetes mellitus.

18. The pharmaceutical composition according to claim 15, wherein the inflammatory diseases are osteitis.

19. The pharmaceutical composition according to claim 18, wherein the osteitis is arthritis.

20. A method for inhibiting c-Jun N-terminal kinase, which comprises administering to a mammal an effective amount of the compound according to claim 1, a salt thereof, a solvate thereof or a prodrug thereof.

21. A method for preventing and/or treating c-Jun N-terminal kinase-mediated diseases in a mammal, which comprises administering to a mammal an effective amount of the compound according to claim 1, a salt thereof, a solvate thereof or a prodrug thereof.

22. Use of the compound according to claim 1, a salt thereof, a solvate thereof or a prodrug thereof, for the manufacture of a preventive and/or therapeutic agent for c-Jun N-terminal kinase-mediated diseases.

23. A pharmaceutical composition which comprises a combination of the compound according to claim 1, a salt thereof, a solvate thereof or a prodrug thereof and one or two or more medicaments selected from the group consisting of an MTP inhibitor, an HMG-CoA reductase inhibitor, a squalene synthetase inhibitor, a fibrate preparation, an ACAT inhibitor, a 5-lipoxygenase inhibitor, a cholesterol absorption inhibitor, a bile acid absorption inhibitor, a ileum Na^+/bile acid cotransporter inhibitor, an LDL receptor activator/expression enhancer, a lipase inhibitor, a probucol preparation, a nicotinic acid preparation, a hypoglycemic sulfonylurea agent, a biguanide preparation, an α-glucosidase inhibitor, a rapid-acting insulin secretagogue, an insulin preparation, a DPP4 inhibitor, a PTP1B inhibitor, a β3 adrenoceptor agonist, a PPAR agonist, and a therapeutic agent for diabetes complications.